

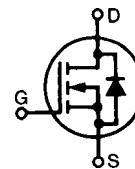
HiPerFET™ Power MOSFETs Q-Class

N-Channel Enhancement Mode
Avalanche Rated, High dv/dt, Low Q_g

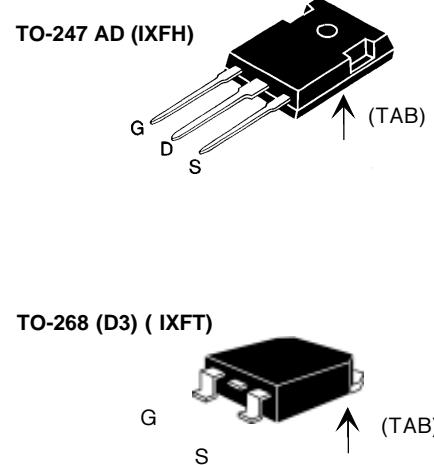
IXFH 26N60Q IXFT 26N60Q

V_{DSS} = 600 V
I_{D25} = 26 A
R_{DS(on)} = 0.25 Ω

t_{rr} ≤ 250 ns



Symbol	Test Conditions	Maximum Ratings		
V _{DSS}	T _J = 25°C to 150°C	600	V	
V _{DGR}	T _J = 25°C to 150°C; R _{GS} = 1 MΩ	600	V	
V _{GS}	Continuous	±20	V	
V _{GSM}	Transient	±30	V	
I _{D25}	T _C = 25°C	26	A	
I _{DM}	T _C = 25°C, pulse width limited by T _{JM}	104	A	
I _{AR}	T _C = 25°C	26	A	
E _{AR}	T _C = 25°C	45	mJ	
E _{AS}	T _C = 25°C	1.5	J	
dv/dt	I _S ≤ I _{DM} , di/dt ≤ 100 A/μs, V _{DD} ≤ V _{DSS} , T _J ≤ 150°C, R _G = 2 Ω	5	V/ns	
P _D	T _C = 25°C	360	W	
T _J		-55 ... +150	°C	
T _{JM}		150	°C	
T _{stg}		-55 ... +150	°C	
T _L	1.6 mm (0.063 in) from case for 10 s	300	°C	
M _d	Mounting torque	TO-247	1.13/10 Nm/lb.in.	
Weight		TO-247	6 g	
		TO-268	4 g	



G = Gate D = Drain
S = Source TAB = Drain

Symbol	Test Conditions	Characteristic Values			
		(T _J = 25°C, unless otherwise specified)	min.	typ.	max.
V _{DSS}	V _{GS} = 0 V, I _D = 250 μA	600			V
V _{GS(th)}	V _{DS} = V _{GS} , I _D = 4 mA	2.5		4.5	V
I _{GSS}	V _{GS} = ±20 V _{DC} , V _{DS} = 0			±200	nA
I _{DSS}	V _{DS} = V _{DSS} V _{GS} = 0 V	T _J = 25°C T _J = 125°C		25 1	μA mA
R _{DS(on)}	V _{GS} = 10 V, I _D = 0.5 I _{D25} Pulse test, t ≤ 300 μs, duty cycle d ≤ 2 %			0.25	Ω

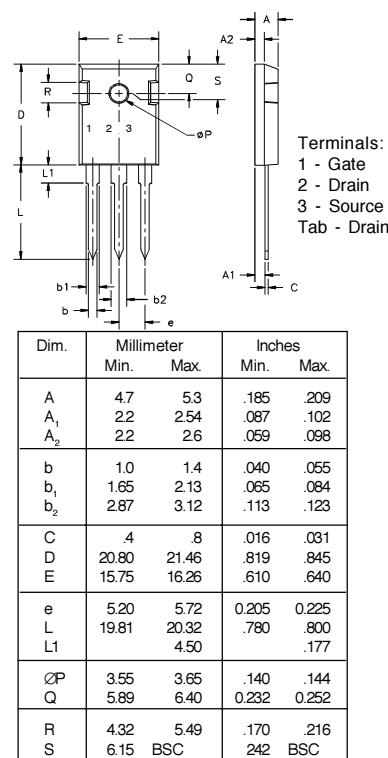
Features

- Low gate charge
- International standard packages
- Epoxy meet UL 94 V-0, flammability classification
- Low R_{DS(on)} HDMOS™ process
- Rugged polysilicon gate cell structure
- Avalanche energy and current rated
- Fast intrinsic Rectifier

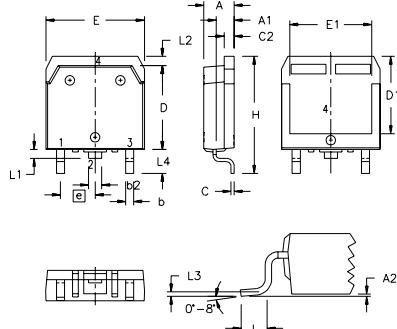
Advantages

- Easy to mount
- Space savings
- High power density

Symbol	Test Conditions	Characteristic Values		
		min.	typ.	max.
g_{fs}	$V_{DS} = 10$ V; $I_D = 0.5$ I_{D25} , pulse test	14	22	S
C_{iss}	$V_{GS} = 0$ V, $V_{DS} = 25$ V, $f = 1$ MHz	5100	pF	
C_{oss}		560		
C_{rss}		210		
$t_{d(on)}$	$V_{GS} = 10$ V, $V_{DS} = 0.5$ V_{DSS} , $I_D = 0.5$ I_{D25} $R_G = 2.0 \Omega$ (External), t_f	30	ns	
t_r		32		
$t_{d(off)}$		80		
t_f		16		
$Q_{g(on)}$	$V_{GS} = 10$ V, $V_{DS} = 0.5$ V_{DSS} , $I_D = 0.5$ I_{D25}	150	200	nC
Q_{gs}		34	nC	
Q_{gd}		80		
R_{thJC}	TO-247	0.35	K/W	
R_{thCK}				
		0.25		K/W

TO-247 AD (IXFH) Outline

Source-Drain Diode

Symbol	Test Conditions	Characteristic Values		
		min.	typ.	max.
I_s	$V_{GS} = 0$ V		26	A
I_{SM}	Repetitive; pulse width limited by T_{JM}		104	A
V_{SD}	$I_F = I_s$, $V_{GS} = 0$ V, Pulse test, $t \leq 300$ μ s, duty cycle $d \leq 2$ %		1.5	V
t_{rr}	$I_F = I_s - di/dt = 100$ A/ μ s, $V_R = 100$ V	1	250	ns
Q_{RM}		10	μ C	A
I_{RM}				

TO-268 Outline


Terminals:

- 1 - Gate
- 2 - Drain
- 3 - Source
- Tab - Drain

SYM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	.193	.201	4.90	5.10
A1	.106	.114	2.70	2.90
A2	.001	.010	0.02	0.25
b	.045	.057	1.15	1.45
b2	.075	.083	1.90	2.10
C	.016	.026	0.40	0.65
C2	.057	.063	1.45	1.60
D	.543	.551	13.80	14.00
D1	.488	.500	12.40	12.70
E	.624	.632	15.85	16.05
E1	.524	.535	13.30	13.60
e	.215	BSC		5.45 BSC
H	.736	.752	18.70	19.10
L	.094	.106	2.40	2.70
L1	.047	.055	1.20	1.40
L2	.039	.045	1.00	1.15
L3	.010	BSC		0.25 BSC
L4	.150	.161	3.80	4.10

IXYS reserves the right to change limits, test conditions, and dimensions.

IXYS MOSFETs and IGBTs are covered by one or more of the following U.S. patents:

 4,835,592 4,881,106 5,017,508
 4,850,072 4,931,844 5,034,796

 5,049,961 5,187,117 5,486,715 6,306,728B1
 5,063,307 5,237,481 5,381,025